

WHAT IS CLAIMED IS:

1. A transparent measuring device, comprising:
a planar structure, having an upper surface and a lower surface;
a plurality of markings formed on the lower surface of the planar structure;
at least one window extending through the planar structure; and
a seam allowance guide removably attached to the planar structure at the window.
2. The transparent measuring device of Claim 1, wherein the markings include a plurality raised ribs protruding from the lower surface of the planar structure.
3. The transparent measuring device of Claim 2, wherein the raised ribs are fabricated from transparent material.
4. The transparent measuring device of Claim 2, wherein the raised ribs are so configured to induce visual graduation of light beams propagating therethrough.
5. The transparent measuring device of Claim 1, wherein the window has a rectangular shape.
6. The transparent measuring device of Claim 5, wherein the window includes a plurality of notches formed on two opposing elongate sides of the windows.

7. The transparent measuring device of Claim 6, wherein the notches are 1/8" long.

8. The transparent measuring device of Claim 1, wherein the seam allowance guide includes:

a lower guide bar to extend transversely to the window under the planar structure; and

an upper guide bar operative to rotate about an elongate axis of the lower guide bar over the planar structure.

9. The transparent measuring device of Claim 8, wherein the distance between the lower guide bar and the upper guide bar is adjustable to indicate a seam allowance of a desired pattern.

10. The transparent measuring device of Claim 8, wherein the lower guide bar is in the form of an elongate tab.

11. The transparent measuring device of Claim 10, wherein the lower guide bar includes an elongate measuring edge and a plurality of notches formed on the measuring edge.

12. The transparent measuring device of Claim 8, further comprising:
a pivoting connection structure projecting from a central portion of the lower guide bar; and

a pair of extension arms pivotally connected to the pivoting connection structure, wherein the upper guide bar is slidably attached to the extension arms.

13. The transparent measuring device of Claim 12, wherein the extension arms are connected to two opposing vertical sidewalls of the pivoting connection structure.

14. The transparent measuring device of Claim 12, wherein the pivoting connection structure includes a pair of recesses and a pair of protruding tabs at lower portions of two vertical sidewalls thereof, such that the seam allowance guide can rotate within the window by leveling the recesses with edges of the window and the seam allowance guide can be secured to the planar structure at the window by engaging the protruding tabs with the notches of the window.

15. The transparent measuring device of Claim 12, wherein the extension arms are connected to the pivoting connection structure by a pin or a ball joint.

16. The transparent measuring device of Claim 12, wherein the extension arms are fabricated transparent material.

17. The transparent measuring device of Claim 12, wherein the seam allowance guide further comprises a bridge extending transversely between the extension arms.

18. The transparent measuring device of Claim 17, wherein the bridge is curved and positioned so as to not block pivoting rotation of the extension arms.

19. The transparent measuring device of Claim 17, wherein the bridge is fabricated from transparent material.

20. The transparent measuring device of Claim 12, wherein the extension arms further comprise a plurality of seam allowance markings thereon.

21. The transparent measuring device of Claim 12, wherein the upper guide bar:

includes a pair of sleeves slidably receiving the extension arms therein;
and

an alignment tab extending between the sleeves to be aligned with any seam allowance marking formed on the extension arms.

22. The transparent measuring device of Claim 21, wherein each of the sleeves includes an open window formed on an exterior surface thereof.

23. The transparent measuring device of Claim 12, wherein free ends of the extension arms are foldable inwardly at predetermined hinge points along the extension arms to form a pair of folded portions overlapped each other.

24. The transparent measuring device of Claim 23, wherein the hinge points are so determined that the seam allowance for a selected pattern is automatically calculated.

25. The transparent measuring device of Claim 23, further comprising a pair of latching structures formed on the free ends of the extension arms.

26. The transparent measuring device of Claim 25, wherein the latching structures includes two holes extending through the extension arms.

27. The transparent measuring device of Claim 25, further comprising a latching pin inserted through the holes of the extension arms.

28. The transparent measuring device of Claim 23, wherein the latching structures include a pair of frictional fit structures formed on the interior surface of one extension arm and the exterior surface of the other extension arm.

29. The transparent measuring device of Claim 25, wherein the selected seam allowance marking includes the seam allowance marking for a half-square pattern.

30. The transparent measuring device of Claim 1, wherein the planar structure further comprises a plurality of circular grooves recessed from the lower surface thereof.

31. The transparent measuring device of Claim 30, further comprises a plurality of elastomeric O-rings partially embedded in the circular grooves.

32. The transparent measuring device of Claim 32, wherein each of the O-rings has a cross-sectional diameter equal to or greater than the height of the grooves.

33. The transparent measuring device of Claim 1, further comprises at least one handle inserted through one of the windows.

34. The transparent measuring device of Claim 33, wherein the handle comprises:

a finger grip portion to be inserted through the window at the upper surface of the planar structure;

a disc portion placed at the lower surface of the planar structure; and
a tether or a string interconnecting the finger grip portion and the disc portion.

35. The transparent device of Claim 34, wherein the disc portion further comprises a plurality of latching fins formed along a periphery of a top surface thereof.

36. The transparent measuring device of Claim 35, wherein the window includes a plurality of notches formed along elongate edges thereof, the notches being engageable with the latching fins.

37. The transparent measuring device of Claim 1, further comprises an angle guide, which includes:

an elongate tab to be placed under the planar structure; and
a protractor member to be placed on the upper surface of the planar structure, the protractor member being rotatably connected with the elongate tab.

38. The transparent measuring device of Claim 37, further comprising a pair of connecting structures extending through the planar structure to rotatably connect the elongate tab and the protractor member.

39. The transparent measuring device of Claim 38, wherein the planar structure includes a through hole, and the pair of connecting structures includes:

a male connector projecting from a center of the elongate tab to extend through the through hole of the planar structure; and

a female connector formed at a center of a baseline of the protractor member.

40. The transparent measuring device of Claim 39, wherein the male connector includes a cylindrical post, and the female connector includes a circular aperture or a cylindrical hollow cap.

41. The transparent measuring device of Claim 37, wherein the protractor member is in the form of a half-circle disc member having a plurality of angle or degree indicia marked along a periphery thereof.

42. The transparent measuring device of Claim 41, wherein each of the degree marking represents an increment or a decrement of 5°.

43. A transparent measuring device for measuring or cutting an underlying object, comprising:

a transparent planar structure, having an upper surface and a lower surface;

a plurality of transparent markings formed on the lower surface of the planar structure, wherein each of the markings includes an elongate raised rib having at least a proximal end adjacent to the lower surface of the planar structure, two elongate opposite side surfaces extending from two sides of the proximal ends, and a distal end opposing to the proximal end and to be in direct contact with the underlying object, wherein the distal ends have a surface area different from that of the proximal ends; and

a plurality of windows formed in the planar structure.

44. The transparent measuring device of Claim 43, wherein the raised ribs have a triangular cross section.

45. The transparent measuring device of Claim 43, wherein the raised ribs have an inverse trapezium cross section.

46. The transparent measuring device of Claim 43, further comprising a plurality of circular grooves formed on the lower surface of the planar structure.

47. The transparent measuring device of Claim 46, further comprising a plurality of O-ring partially embedded in the circular grooves.

48. The transparent measuring device of Claim 43, wherein the windows are rectangular.

49. The transparent measuring device of Claim 43, wherein each of the windows further comprises a plurality of notches formed on two elongate edges thereof.

50. The transparent measuring device of Claim 43, further comprising at least one removable handle to be engaged with the planar structure at one of the window.

51. The transparent measuring device of Claim 50, wherein the handle comprises:

a finger grip portion, to be inserted through the window at the upper surface of the planar structure;

a latching dish, to remain at the lower surface of the planar structure;

and

a connection tether or string, to interconnect the finger grip portion with the disc portion.

52. The transparent measuring device of Claim 51, wherein the disc portion further comprises a plurality of fins formed along a periphery of a top surface thereof.

53. The transparent measuring device of Claim 52, wherein the window includes a plurality of notches along two elongate edges thereof, such that at least a pair of the fins is engaged with the respective notches to secure the handle to the measuring device.

54. The transparent measuring device of Claim 43, further comprising an angle guide to be mounted to the planar structure.

55. The transparent measuring device of Claim 54, wherein the protractor guide comprising:

an elongate bar to be placed adjacent to the lower surface of the planar structure;

a protractor member to be placed adjacent to the upper surface of the planar structure, the protractor member being rotatably attached to a center of the elongate bar; and

a plurality of degree markings formed along a periphery of the protractor member.

56. The transparent measuring device of Claim 55, wherein each of the degree markings represents an increment or decrement of 5°.

57. The transparent measuring device of Claim 55, further comprising a pair of connecting structures extending through the planar structure to rotatably connect the protractor member and the elongate bar.

58. A seam allowance guide attachable to a measuring device that includes at least one window for auto-calculating seam allowance of a desired pattern, the seam allowance guide comprising:

a lower guide bar to be placed transversely under the window, the lower guide bar including an elongate measuring edge; and

an upper guide bar operative to rotate about an elongate axis of the lower guide bar.

59. The seam allowance guide of Claim 58, further comprising:

a pivoting connection structure projecting from a central area of the lower guide bar; and

a pair of extension arms pivotally connected to the pivoting connection structure, wherein the upper guide bar is slidably engaged with the extension arms.

60. The seam allowance guide of Claim 59, wherein the pivoting connection structure includes a pair of vertical sidewalls to pivotally connect the extension arms, and lower portions of the vertical sidewalls further comprise a pair of recesses and a pair of protruding tabs to be engaged with the window.

61. The seam allowance guide of Claim 60, wherein the window includes a plurality of notches for engaging the protruding tabs.

62. The seam allowance guide of Claim 60, wherein a plurality of seam allowance indicia or markings are formed on the extension arms.

63. The seam allowance guide of Claim 62, wherein the extension arms are foldable at a selected seam allowance marking formed on the extension arms.

64. The seam allowance guide of Claim 63, further comprising a pair of latching structures for latching folded portions of extensions arms.

65. The seam allowance guide of Claim 59, wherein when the distance between the lower guide bar and the upper guide bar indicates a seam allowance for a desired pattern.